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## Housing for All in India and Its Future in Sustainable Development

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### **History of India in terms of Housing Demand and the Emergence of Informal Settlements:**

After the Second World War, great demand for housing was witnessed globally. India, in 1947, was faced by the challenge of housing about 7 million people, who had migrated from Pakistan<sup>1</sup>. Like other recently decolonized countries at the time, India developed housing programs with foreign aid. These programs were guided, by policies that were not homegrown and were rendered with a top down approach of western solutions. An historical analysis of the number of houses required and population growth in India reveals a widening housing gap since independence to present time. In 50 years, from 1951 to 2001, as the population of India grew from 360 million to 1 billion, the total housing demand increased from 9 million to 22 million.

*Table 1 Population Growth and Housing Gap in India in Millions:*

Year	Census	Population	Number of Households	Number of Housing Units	Housing Gap
1951		360.9	73.4	64.4	9.0
1961		439.2	83.5	79.1	4.4
1971		547.2	97.1	90.8	6.3
1981		685.2	112.6	114.4	8.2
1991		846.3	160.6	129.6	31.0
2001		1025.3	209.2	187.1	22.1

After independence India's first reaction toward housing the immigrant population was to act as a welfare state and construct public housing for the homeless population. The foreign lead actors who shaped the housing policies around the world after World War II, were the United Nations and its permanent member countries that included the United States and the United

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<sup>1</sup> India was partitioned creating two independent countries (Pakistan and India), when the British receded from the sub-continent.

Kingdom. It was under their guidance that the governments shaped their national policies of housing and development around the world. Later in 1973, the World Bank jumped into this arena as the lead funder for housing programs and the United Nations Center for Human Settlements Habitat (UNCHS or UN Habitat) was established in 1978.

It is evident that the policies adopted and the measures taken by the Indian Government, since the 1950s, were pretty much in line with the other parts of the global south, following similar global policy agenda of development. Many researchers have analyzed the efforts of India within the framework of these global policies for housing, grouping them into three phases since World War II, from the 1950s to present (Nair, et al. 2011). What follows in this paper is a snapshot of India's policies on housing with respect to the global policy trends following independence and the reasons for their shortfalls

During the time period between 1947 and 1964, with Jawahar Lal Nehru as the prime minister, Indian policies were focused on the development of capital goods industries, with the objective to make India a self-reliant country. All resources were channeled for this purpose into

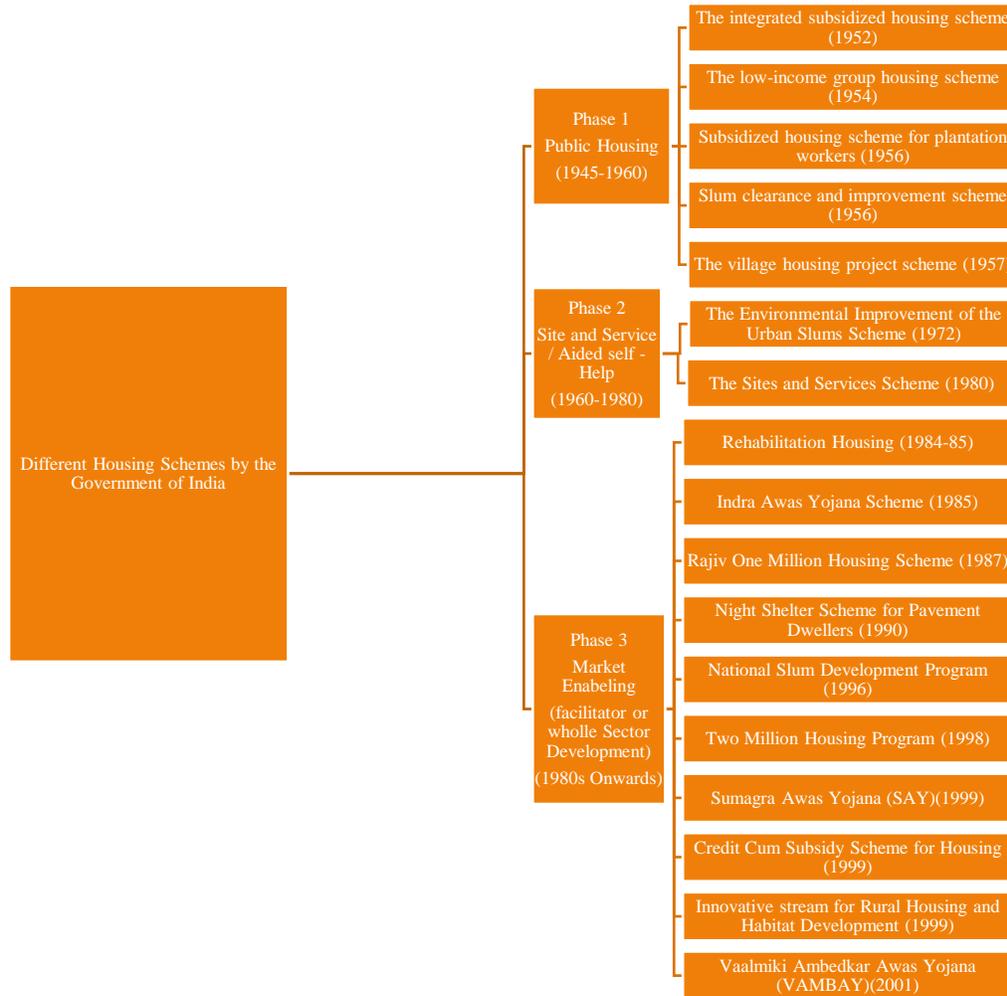


Figure 1: India's Housing Policies and Schemes since 1947

industrial development projects through five-year plans. These policies augmented the trend of rural-urban migration, increasing the demand for urban housing and contributing to an even greater housing shortage.

**Phase 1 (Public Housing 1945-1960):**

The first phase of global housing policy, created the role of the government as that of the provider, where housing was constructed by the government and then rented to the public. In this product-delivery model houses for low income groups were mass produced with the underlying assumption that all people could live in the same way, devoid of any cultural context.

**India's Approach in Phase 1 of Housing Policy:**

In India, the public sector industrial employers provided housing for their employees, even before independence under the British rule. This type of housing called 'Chawls', was a one-bedroom unit with a kitchen and shared amenities, in five-storey high mid-rise buildings that are still standing in cities like Mumbai in India. Common social spaces such as balconies and courtyards are characteristic features of 'Chawls'. The provision of 'Chawls' continued into the formative years of post-colonial India. Through this approach, the public-sector employees belonging to the lower income group were provided with housing through subsidized public programs, but other low and middle-income groups outside the public sector were left with no housing options other than turning to the ongoing squatting process.

Employers with limited resources were not able to fill the housing demand for their workers. The high demand of building materials and resources due to mass housing construction activities led to their increased costs which eventually shrank the construction industry, slowing down the construction process. This scenario put added pressure on the existing housing stock raising the prices and making it unaffordable to the poor (Tiwari and Rao 2016). The government tried to control prices by introducing regulations like the legislative control act on rent (the Rental Control Act). This act backfired in the sense that the private sector seeing no monetary

incentive or growth in the rental opportunities refused to invest in them, which led to limited rental options for the poor. This shortfall in housing was compensated by people settling informally in and around cities, creating crowded and unplanned settlements, which in the absence of any public infrastructure and support, often turned into slum-like conditions (Tiwari and Rao 2016). The strategy of clearing the appalling living conditions through forceful evictions often resulted in resettling the evicted in remote areas outside cities or on the periphery, where they upon finding life more difficult, being disconnected from their work places and public infrastructure, frequently returned to squatting within the city limits.

Research of the five year plans that provide the framework of development in India shows that the allocation of funds toward housing was 35 percent of the total budget in the first five-year plan (1951- 1956).<sup>2</sup> Provision of housing was a high priority for the government at the time. However, in the second five-year plan, housing was extended to all poor through policies that focused around clearing of the deteriorating living conditions along with creating new housing for the masses. A number of schemes were introduced, for this ambitious approach, this paved way for the development of the formal housing finance sector in India during the 1960s. It was through this sector that the third Five-Year plan (1961-1966) tried to reach the low-income groups with subsidized rental housing schemes.

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<sup>2</sup> Some scholars have done extensive studies of the funding flows towards housing. Among such studies, Buckley and Kalarickal's (2006) review of the World Bank's shelter portfolio provides a strong framework to analyze the link between local policy and international funding. Although their review ends till 2005, but it does give a picture without being country specific, of where large monetary commitments by World Bank and the International Monetary Fund (IMF) were made. Cheryl Young in her country specific study on India extends their review of approved projects up until 2014 and shows how the country's local housing policy was aligned with the global policy of these international funding organizations. Deepa Nair in her study on housing in Kerala, India, argues that the aftermath of the Second World War raised a huge demand of housing throughout the world, which was immediately filled by the squatting and self-help efforts of the people **Invalid source specified.**

**Phase 2 (Sites and Services and Aided Self-Help 1960s-1980s):**

The second phase of the global housing policies was geared toward providing aid so that people could build for themselves rather than building for them. In this phase the government resolved to providing land with services like water, light and gas connections. The model weighed heavily on free market economies and affordability of the people. This approach of ‘sites and services’ was endorsed by the UN and the United States and later joined by the World Bank in the early 1970s<sup>3</sup>. The World Bank took a project based approach, navigating policies that would generate replicable affordable housing with cost recovery plans. These policies guided the selection of house building materials, methods and standards within the affordability and replicability frameworks. The magnitude of the housing demand was still not taken care of, due to the complications of macroeconomics and the housing development sectors’ involvement, however it became a significant step in shaping the global housing policy since the 1970s to the 1990s.

**India’s Approach in Phase 2 of Housing Policy:**

During this phase (in the 1960s) the Indian government focused on establishing a housing institutional structure to guide the policies on land building, construction materials and finance. Later, the country experienced a shift in the government’s top down approach toward housing and introduced programs that aided self-help building projects by providing land to build on and

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<sup>3</sup> The philosophical debates about self-help Housing emerged in the post WWII era of 1950s, as the governments around the world continued to experience problems in meeting the housing gap produced by the war. John Turner and Charles Abrams are the often-quoted experts in this realm. They both worked on United Nations funded programs as consultants on house building in the Global South. The ideas that emerged from their work greatly influenced the policy of the two core institutions spearheading all development projects around the world at the time, i.e., the United Nations and the World Bank. John Turner, penned the experiences from his work in Peru in the 1950s on a USAID funded project, in a book *Housing by People*, in which he promotes the role of the government as a facilitator to housing instead of a provider. He argues that the government should only help citizens to do what they want to do and guarantee them a fair share of resources, such as the provision of the infrastructure. While Charles Abrams, in his seminal work *Man’s Struggle for Shelter*, concluded that slums appear because no nation can provide housing at a cost that workers can afford (Abrams, 1964).

service connections to the sites. The previous failed attempts of replacing the squalid living areas of the urban poor with new construction led to a new scheme of *'in-situ upgrades'*, aimed at ameliorating the dire conditions of these urban areas without replacing the residents. The government policies in these schemes focused on providing infrastructure and land through state governments' housing boards. India's housing finance institution called the Housing and Urban Development Corporation (HUDCO) was set up to finance site and services programs for the low-income groups.

This strategy required some level of professional supervision and training. Due to an inadequate number of trained professionals, the self-help housing of the site and services programs could not be properly designed, facilitated, or effectively managed. There wasn't enough development or production of inexpensive building materials and technology that the poor could afford. On top of it all the lack of political will to involve the community in the design and implementation of the projects, the lack of research and coordination among other countries on self-help construction best practices hindered the success of this model in filling the housing gap effectively.

### **Phase 3 of Housing Policy (1980s-present):**

The third phase of global housing policy began from the 1980s and elevated the status of *housing* in public policy as an *economic good* by linking the housing sector to national economies. This phase gave rise to a housing development sector that channeled loan assistance through housing finance programs, mobilizing household savings into housing capital<sup>4</sup>. In this phase, housing development has taken center stage in the global discourse on anti-poverty

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<sup>4</sup> The policy was reflected in the World Bank's Policy Review in 1992 (Housing: Enabling Markets to work).

policies for sustainable development solutions. The local land policies along with economic development policies are also focusing on keeping housing as a key component in most countries with high poverty and housing demand<sup>5</sup>. The United Nations is now pushing the countries for a more holistic approach toward shelter and housing that connects the poor to the major sustainable development policy agenda at local level.

### **India's Approach in Phase 3 of Housing Policy:**

India in 1988, acquired the first National Housing Policy that changed the role of the state from a provider (of finished houses, site and services and finance) to that of a facilitator that encouraged private sector investments in the housing market. The programs that were launched during the early phase had an integrated approach powered by policies that linked the housing schemes with education and health schemes. The *Jawaharlal Nehru National Urban Renewal Mission (JNNURM)* launched in 2005 aimed to construct 1.5 Million houses for the urban poor in the mission period (2005-2012) in 65 cities<sup>6</sup>. The two policies under JNNURM that targeted housing are *Integrated Housing and Slum Redevelopment Programme* and *Basic Services for the Urban Poor (BSUP)*. Both policies aim at providing entitlements such as security of tenure, affordable housing, and services like water, sanitation, health and education and social security to low-income groups. This followed the introduction of market solutions such as the *Affordable Housing in Partnership (AHP)*, involving private players<sup>7</sup>. Another program called *Rajiv Awas*

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<sup>5</sup>The Local Agenda 21 adopted at the Earth Summit in Rio de Janeiro (1992) and the Habitat Agenda launched at the City Summit in Istanbul (1996), both promulgated for the increased role of the private sector and involvement of the civil society in providing adequate housing for all.

<sup>6</sup> MoHUPA stands for Ministry of Housing and Urban Poverty Alleviation, which is a division of the Ministry of housing and Urban Affairs. The JNNURM mission was initially launched for a seven year period but then was extended up to March 2015 to complete ongoing works in 65 Mission Cities identified based on urban population (Census 2001). See MoHUPA, 2015a

<sup>7</sup> See MoHUPA, 2013

*Yojana (RAY)* that aimed at providing affordable housing to the urban poor<sup>8</sup>, was rolled over into the *Housing for All (HFA) by 2022* policy on May 2015.

The evolution of a housing market supported by an established housing finance system led to housing supply for the high and middle-income groups. The rigidity of the land regulatory system and the finance mechanism of the free market that required the borrower to have a monthly income flow, title to property and construction drawings with government approval, completely cut off the poor from these opportunities. Based on recent statistics it is to be noted that 99 percent of the urban housing shortage in India is in the Economically Weaker section (EWS) and the Low Income Group (LIG) categories (Report on Trend and Progress of Housing in India 2012).<sup>9</sup>

Since the 1990s, following the international policy agenda set forth by the United Nations in its Millennium Development Goals (MDGs) for sustainable development (Habitat II 1996 and Habitat III 2016), India had also acquired the zealous attitude towards eradicating poverty and providing adequate housing for all. Both housing initiatives RAY and HFA 2022 in 2015 are evident of that fact. As one of the 190 countries that signed the 2030 agenda for sustainable development in the United Nations Sustainable Development Summit of 2015, India agreed to adopt a new framework that would guide all development efforts in the country between 2015 and 2030<sup>10</sup>. The 2030 Agenda, which emerged from the UN Habitat summits, provides that framework based on 17 overarching Sustainable Development Goals (SDGs) and 169 targets.

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<sup>8</sup> See MoHUPA, 2012a

<sup>9</sup> The Ministry of Housing and Urban Poverty Alleviation defines the poor population of India into categories as: The Economically Weaker Sections (EWS) that are households with yearly incomes less than 100,000 rupees a year and Low Income Groups (LIGs), with yearly income between 100,000 to 200,000 rupees a year

<sup>10</sup> Entitled "Transforming our world: the 2030 Agenda for sustainable development"

The goals were developed with economic, social and environmental objectives embedded in them, covering most aspects of the sustainability spectrum<sup>11</sup>. Goal 11, however, specifically focusing on cities states,

*“make cities and human settlements inclusive, safe, resilient and sustainable”*

*(11 Sustainable Cities and Communities 2016)*

In this event the phenomenon of urbanization was recognized internationally, as a catalyst that is fast transforming today’s cities, and the need to focus on ‘sustainability’ in urban development was agreed upon unanimously.

### **An Account of India’s Urban Population at Present:**

With a total population of 1.3 billion, India is the most populated country in South Asia that includes Afghanistan, Bangladesh, Bhutan, Maldives, Nepal, Pakistan and Sri Lanka, and the second most populated country in the world after China.<sup>12</sup>

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<sup>11</sup> The Brundtland Report, published in 1987 by the United Nations World Commission on Environment and Development coined the term ‘sustainable development’.

In simple words, sustainable development does not impact the physical and ecological environment adversely and sustains the population economically and socially. Sustainable development has been characterized to have three main elements as: people, prosperity and planet. This triangular concept has also been called the ‘Triple Bottom Line concept’ by the United States Green Building Council.

<sup>12</sup> <https://www.cia.gov/library/publications/the-world-factbook/fields/2212.html>  
<http://www.worldometers.info/world-population/iran-population/>

*Table 1 Population and Housing Demand of India in Comparison with other Countries:*

	<b>Ranking in the world in terms of Population</b>	<b>Total population</b>	<b>Urban Population</b>	<b>Annual rate of Urbanization</b>	<b>Housing demand</b>	<b>Urban areas</b>
India	2	1.34 billion	32%	2.8%	43.67 million	18.78 million
Pakistan	6	198 million (approx.)	39%	2.7%	7.5 million	2.5 million
Bangladesh	8	157 million	35.7%	3.19%	5 million	1-1.5 million

Historically the distinction between urban and rural life emerged in the early modern era of South Asia (Perlin 1983). The land of India is divided into 29 States and 7 Union Territories that are further divided into smaller organizational districts, that added up to 707 in 2016 (Akhmat and Khan 2011). The basic category of an urban unit in India is considered a ‘statutory town’ with a minimum population of 5000 people having a minimum density of 1032 people per square mile (400 per sq. Km), a municipality structure or cantonment board and an economic base other than agriculture. Based on India’s definition, ‘urban agglomerations’ constitute areas that spread from at least one or more statutory towns with combined populations not less than 20,000 people. However, all Indian states have a slightly different criterion of defining urban agglomerations. In The census of 2011, more than 50 percent of the Indian states accounted for 10,000 and more people living in urban agglomerations<sup>13</sup> (DESA 2015). A closer

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<sup>13</sup> Urban population refers to people living in urban areas as defined by national statistical offices. It is calculated using World Bank population estimates and urban ratios from the United Nations World Urbanization Prospects. There is no consistent and universally accepted standard for distinguishing urban from rural areas, in part because of the wide variety of situations across countries. Most countries use an urban classification related to the size or characteristics of settlements. (World Bank Staff Estimates based on the United Nations Population Division’s World Urbanization Prospects: 2014 Revision)

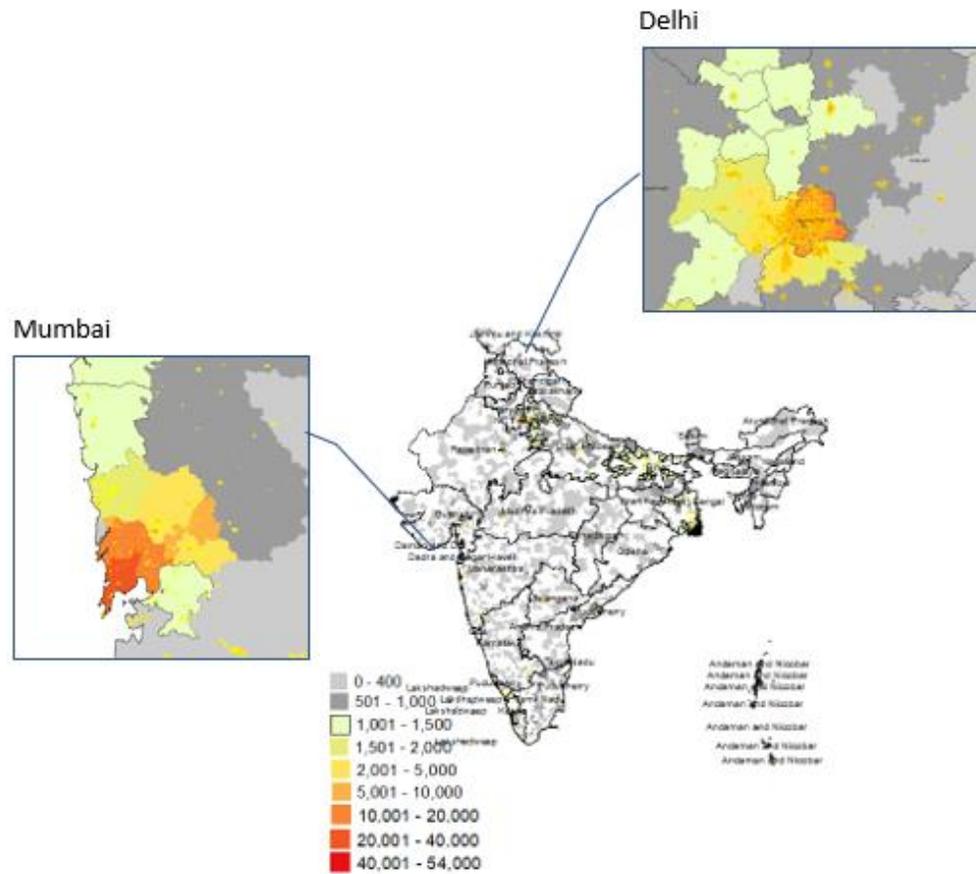
look, at the share of the urban population by districts in the states, revealed concentrated urban population with high densities in parts of the districts.

*Table 2 Population Shifts from Rural to Urban in India:*

<b>Year</b>	<b>Total Population (million)</b>	<b>Urban Population (Percent of Total)</b>	<b>Rural Population (Percent of Total)</b>
1951	361	17	83
1961	439	18	82
1971	584	19	81
1981	683	23	77
1991	846	25.5	74.5
2001	1,029	27.7	72.3
2011	1,211	31	69

Sustainability and functionality of a city is dependent upon its multi- dimensional growth process. The changing size of the population with respect to the extent of the built-up area without concurrent expansion of the land area, results in increased population density (i.e., ratio of the total population of the city to the total urban land cover), these cities grow vertically as in the case of Mumbai in India. In other cities the growth in population is accommodated by the expansion of the built-up areas of the cities horizontally like in Delhi. The fact is that two-third of India's population still lives on rural land, but with India urbanizing at a rate of 2.8 percent, unplanned urban agglomerations and new towns are emerging, along with dense urban concentrations as seen in megacities like Delhi and Mumbai. . Currently, Delhi is considered the

third largest urban area in the world with a population of 25 million people and a projected population of 36 million in 2030<sup>14</sup>.



*Figure 2: Population Density per Square Kilometer in India*

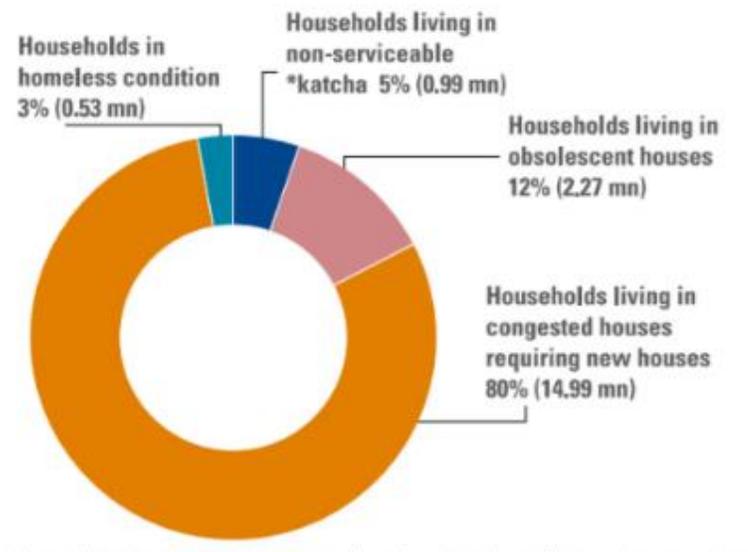
Map was created by the author based on the 2011 census data.

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<sup>14</sup>Source: World Urbanization Prospects 2014 Revision-United Nations-<https://esa.un.org/unpd/wup/publications/files/wup2014-highlights.Pdf>



included adequate housing as a human right in. By including it in the constitution, the state could make a stronger policy toward inclusive and affordable housing under legal obligation.



*Figure 4: Categories of India's Urban Housing Shortage in 2012*

Source: RGI on the basis of Census of India, 2011-India Environmental Portal

Based on the census data of 2011, it can be noticed that only 3 percent of the total housing shortage came from homeless people, while the rest was from the households requiring to replace their existing houses (Kundu 2012). Homelessness constitutes only slightly to the housing demand in India, the major demand is from replacement needs of substandard housing units that are structurally unstable and offer harmful and dangerous living conditions. (Tiwari and Rao 2016)

### **Affordability and the Housing Gap:**

Affordability is a crucial relationship between housing and people. Some people cannot afford any form of housing unless it is free, therefore affordability becomes the key component

in filling the housing demand gap. In the housing market, the continuous increase in construction costs, besides other complexities of land acquisition and fees, creates major problems of affordability for Low Income Groups (LIGs). In today's market driven economy, the inability of low income people to afford adequate housing is one of the major factors that lead to the creation of informal housing, filling the demand gap in the urban areas of India. In most places affordability of housing is gauged as a comparison of housing expenditure to the income of the household. Housing is considered affordable if it costs less than 30 percent of the household budget in the United States (CTOD & CNT, 2006). The government of India renders housing as affordable in these words,

*“Affordable housing refers to any housing that meets some form of affordability criterion, which could be income level of the family, size of the dwelling unit or affordability in terms of EMI size or ratio of house price to annual income”*

*(High Level Task Force on Affordable Housing for All, December 2008, p. 7).*

### **Informal Settlements as a Means to Fill the Housing Gap:**

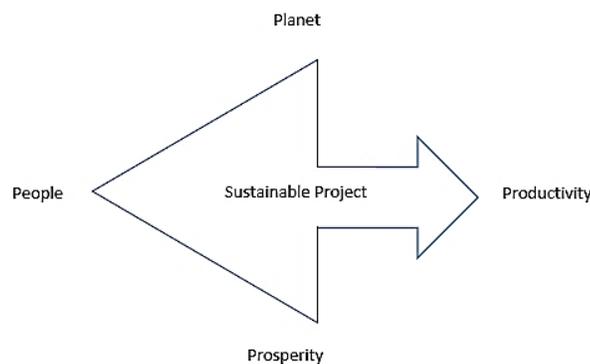
The unaffordability of legal housing in India gives rise to the practice of poor people to illegally occupy public land through self-constructed housing, without services and infrastructure or any legal titles. These informal settlements are built by the people with cheap locally available building materials, local skills, ad hoc designs and technology, without proper professional assistance, standards and legal building codes (Akhmat and Khan 2011).

The informal settlements, based on their density, size and physical conditions have been branded in literature as, *Informal but Affluent, Moderate Informal, Disadvantaged Settlements*

and *Slums*. *Slums* in India are referred to as those living places that are characterized by insecure residential status, poor structural quality of housing, overcrowding, inadequate access to safe water, sanitation and basic services (Unger 2007). Based on this criterion, the first complete census report on Indian slums in 2011, described that 1 in 6 city residents of India live in slums under conditions deemed as ‘unfit for human habitation’. These 64 million urban dwellers nationwide account for one third of India’s total population.

### **Self-help Housing- A Step toward Sustainable Development:**

By agreeing on the Sustainable Development Goals for 2030, India agrees that the impact of the housing sector is central in achieving stability and income growth. Prosperity studies show that when sustainability is paired with affordability and maintenance cost, the impact of housing is the greatest on low to middle income households (Litman 2010). The use of sustainable methods of construction can improve cost efficiency of housing. There has been much research done on the link between sustainability and affordability of housing and informal settlements upgrading, that can be a great component of reducing the housing demand in India (Menshaw, Shafik and Khedr 2016). When housing projects are compliant with the sustainability dynamics



that are centered on the planet, its people and their prosperity then highly productive solutions can be reached.

India has come a long way in forming the national policy and strategies on housing the poor, from expensive ready-made, cookie cutter solutions of public housing, destruction and removal of slums and displacement of the inhabitants to providing financial avenues. Among all strategies the most effective and inclusive seem to be the ones on Sites and Services and Core Housing Upgrading that require aided self-help, when judged within the sustainability framework centered on the sustainability objectives. What follows in this paper is an analysis of how the self-help housing model compares with the three components of the sustainability triangle that are people, planet and prosperity, so that India can move toward a more sustainable direction in respect to '*adequate housing for all*' keeping up with its Housing for All by 2022 policy.

### **Social Aspect in Self-Help Housing:**

The Special Rapporteur of UN concluded in her report that India would benefit from recognizing housing as a human right in the new legislation. Illegal and substandard housing of the informal settlements can be transformed into viable living environments, with policy that is well grounded on human rights and puts people first. A national housing law that aims to address these issues will serve as a platform for creating pro-poor policies in terms of housing <sup>16</sup> (Farha 2017).

Self-help housing can be defined as a process through which people attempt to create permanent shelters for themselves. In this process the residents take up the responsibility for the design, construction, maintenance and management of the physical structures, their immediate surroundings and the eventual provision of services such as clean water, sanitation and energy.

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<sup>16</sup> The special rapporteur from the Office of High Commission on Human Rights reported on Housing as Human right in India

Self-help housing also includes renovations, alterations or adaptations of existing buildings, including tenements, industrial spaces or other structures that have not been occupied for lengthy periods. New residents or others working with them undertake the improvements. The people centered approach of self-help housing in combination with in situ housing improvement plans have proved to be beneficial for social empowerment in other places like Thailand's Bang Bua Canal Community Upgrading project.

### **Prosperity Aspect in Self-help Housing:**

As the economy of India continues to expand, the country will have the resources to implement the right to adequate housing for all. India's policies on housing have been focused around the model of home ownership, which even when highly subsidized could not cater to the diverse groups of people most in need of housing, especially the ones at the bottom of the social pyramid, who are homeless, or living on pavements and informal settlements and also those facing traditional practices of exclusion and discrimination (Farha 2017). Onsite, self -help, upgrading programs in which local resources are utilized can remain affordable, as the rising costs of materials and equipment that impede the cost recovery process of these projects can be avoided.

Housing can also play an important role in the finance and economic growth of the country. On average, a household spends 15-40 percent of their monthly income on the housing expenditure (including mortgage, maintenance, bills, rents etc.)<sup>17</sup>. It will be of value to further investigate the economic role of housing in India's economy. According to the World Bank's

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<sup>17</sup> Charles Abrams, the world-renowned housing expert suggested that the demand for housing could generate growth in the construction related industry, it can employ and train a large portion of unskilled labor and it can motivate the savings potential of the economy, where people will save for housing if not for anything else (Abrams 1964).

2008 market review report on housing finance of South Asian countries, government contribution to the housing sector, with its multiplier effect, could generate more income and wealth (Nenova 2008). The report stated that,

*“If the economy grows at the rate of 10 percent, the housing sector has the capacity to grow at 14 percent and generate 3.2 million new jobs over a decade” (World Bank 2008).*

The National Housing Bank of India reports that for every rupee invested in housing in India, 78 cents get added to the national GDP.

### **Planet- the Third Aspect of Sustainability in Self-help Housing:**

Scholars and experts in the field agree that unsustainable and imbalanced patterns of production and consumption around the world result in great economic and social costs and also lead to the depletion of the planet's resources, thus harming the environment. As cities become more susceptible to climate change the poor remain the most vulnerable.

Large cities like Delhi and Mumbai in India have larger ecological footprints, mostly due to traffic and manufacturing practices. 1 billion people around the world mostly in the global South live in slums like conditions without proper access to basic infrastructure and services such as water, sanitation, electricity, health care and education. In the 1990s, in New Delhi alone, only less than 40 percent of households were connected to sewers (Khan 1997). Research shows that in the urban areas of India it is only the poor who are deprived of sanitary conditions in their living environment that results in worsening health conditions and an increased level of medical expenses, putting more fiscal burden on the poor households.

Vernacular practices in construction using natural materials, such as mud bricks, bamboo, and thatch in India, are almost always environment friendly. However, the vernacular ways have

never been supported by Indian policy on housing. In fact, the practice of typecasting vernacular as ‘Kachcha’ meaning ‘raw’ and in need of replacement, in the official language of policy, has negatively impacted the vernacular ways of construction in India. The negative connotation of such terminology deems these cost effective and environmentally sustainable practices as backward and linked to poverty. After the Tsunami destruction of 2004, in Tamil Nadu India, the state government announced that 130,000 houses needed to be replaced. This number included even those houses that were not damaged but were constructed in the traditional ways, not following the prevailing building codes. This resulted in channeling surplus of disaster recovery foreign funding in the construction of modern row housing in cement and concrete removing all undamaged vernacular housing and trees on site. The resultant town of mass produced matchbox houses in concrete did not sit well with the traditional Tamil Nadu fisherman community at any level. Concrete construction, the identical closed plans of the houses, and the absence of the trees were factors that severely affected their livelihoods (Duyne 2010). In the self-help and self-build model in urban areas there is a risk involved in using flammable materials like thatch, but there is room for further investigation and research into the choice of material and planning for urban housing. India’s own architect Laurie Baker, who spent his lifetime in researching on Kerala’s vernacular architecture and indigenous ways of building, has produced simple to read publications and easy to follow instruction guides that can be a great asset in bringing the environmental, social and economic elements of sustainability into the construction of houses<sup>18</sup>.

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<sup>18</sup> By involving research institutions like COSTFORD (Center of Science and Technology for Rural Development) in the policy making process the government could improve its ability to facilitate self-help houses on a scale that will close the housing gap efficiently (Baker 1986).

### **Conclusion:**

The dearth of affordable housing in India is posing great challenges, particularly for the big cities to develop in sustainable and harmonious ways. The local policy on housing in India has been heavily influenced by the global policies since 1947. The paper argues that the international approach toward housing, although well intended, does not always translate well at the local level in catering to the housing demand. As a consequence the practice of squatting and self-building of the poor households creates unplanned settlements in and around Indian cities that often times evolve into unsafe living environments. The self-help and self-build efforts of the poor end up creating a supply of inadequate housing when they have the potential of creating adequate housing in the most cost efficient ways by using environment friendly materials of construction, and mobilizing human capital.

Although, the policies of Indian government in the recent past have been to promote access to finances for the urban poor, but these models also have their limitations. Focusing on upgrading the already existing unplanned built up areas of the cities has proven to have positive social impacts but their cost efficiency can be researched upon through comparative cost analyses studies. Such research can help the government to develop affordable programs aimed at securing a sustainable future for the cities. India could develop cost-effective and equitable public policies using *integrated methodologies*, to deal with the affordable housing demand. *Integrated methodology* would include finding ways of construction and developing infrastructure for upgrading India's already existing squatter settlements in ways that are not only cost effective but are also environmentally sound and generated through community participation. Policies promoting self-help efforts that use locally available materials, vernacular

architecture practices, and capacity building through training the locals could result in sustainable housing solutions.

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